CURRENT POPULATION REPORTS

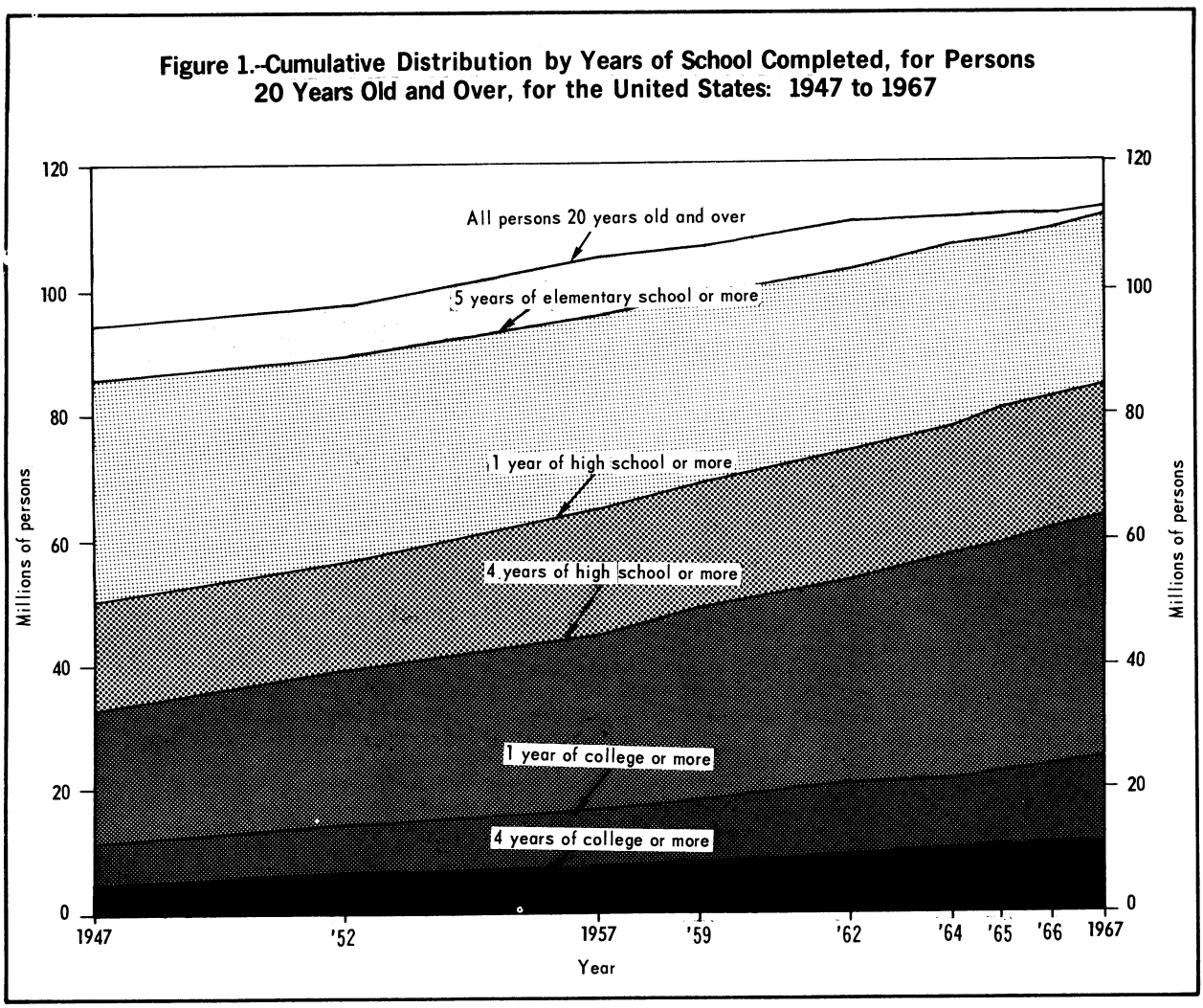
D. Duane Dunn

Population Characteristics

Series P-20, No. 169
February 9, 1968

EDUCATIONAL ATTAINMENT: MARCH 1967

Figure 1.--Cumulative Distribution by Years of School Completed, for Persons 20 Years Old and Over, for the United States: 1947 to 1967



U.S. DEPARTMENT OF COMMERCE, Alexander B. Trowbridge, Secretary

BUREAU OF THE CENSUS A. Ross Eckler, Director

CONTENTS

TEXT TABLES

FIGURES

DETAILED TABLES

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402, 15 cents. Annual subscription (Series P-20, P-23, P-25, P-27, P-28 summaries, P-60, and P-65, combined), $5.00; foreign mailing, $6.50.

EDUCATIONAL ATTAINMENT: MARCH 1967

Over half of the adults in the United States have completed at least 4 years of high school and one-fifth have completed at least a year of college. These findings are based on a Current Population Survey conducted in March 1967 by the Bureau of the Census. The results show that 64 million of the 118 million persons 20 years old and over have completed 4 years of high school or more and 25 million have completed 1 year of college or more (figure 1 and table A).

Comparisons with previous surveys back to 1947 show steady increases in the educational attainment of the population. In 20 years, the number of persons with at least 4 years of high school increased by 30 million, while the adult population was increasing 24 million. The percentage increase in educational attainment was greatest for persons completing 4 years of college or more, with the number more than doubling from 4.7 million to 11.6 million between 1947 and 1967. At the same time the number of persons who had completed less than 5 years of elementary school declined from 9.1 million to 6.5 million. Figure 2 illustrates with percent distributions the striking increases in education over the past 20 years.

Educational attainment in central cities of metropolitan areas was lower than outside central cities.--The median number of years of school completed for persons 25 years old and over living in central cities in March 1967 was 11.9, compared to 12.3 in metropolitan areas outside central cities (table B). Forty-nine percent of those 25 and over in central cities had completed at least 4 years of high school, clearly below the 60 percent for those in metropolitan areas outside central cities. Table 3 presents statistics on educational attainment for the first time by residence in central cities and in metropolitan areas outside central cities. Previous reports in this series have given data only for the entire metropolitan area, although unpublished data are available for the metropolitan population by residence in and outside central cities for March 1965 and 1966.

Educational attainment among Negroes was highest in the metropolitan areas.--The educational attainment of Negroes 25 years old and over living in metropolitan areas exceeds that for those living in the nonmetropolitan areas. The proportion in 1967 who had completed at least 4 years of high school was 35 percent in the

Table A.--CUMULATIVE DISTRIBUTION BY YEARS OF SCHOOL COMPLETED, FOR PERSONS 20 YEARS OLD AND OVER, FOR THE UNITED STATES: SELECTED YEARS, 1947 TO 1967

(In thousands)

Date	Total	Cumulative distribution by years of school completed				
		4 years of college or more	1 year of college or more	4 years of high school or more	1 year of high school or more	5 years of elementary school or more
March 1967	118,429	11,620	24,977	63,951	84,831	111,902
March 1966	116,752	11,251	23,454	61,499	82,575	109,902
March 1965	116,018	10,640	22,550	59,928	80,932	108,859
March 1964	114,678	10,160	21,820	58,017	78,692	107,199
March 1962	111,629	9,708	21,057	54,119	74,132	103,638
March 1959	107,720	8,470	18,305	49,379	69,320	99,541
March 1957	105,373	7,769	16,500	45,902	65,248	96,371
March 1952	97,656	6,781	14,849	39,752	57,196	89,272
April 1947	94,326	4,786	11,576	33,542	50,179	85,213

Figure 2.--Years of School Completed by Persons 20 Years Old and Over, for the United States: 1967 and 1947

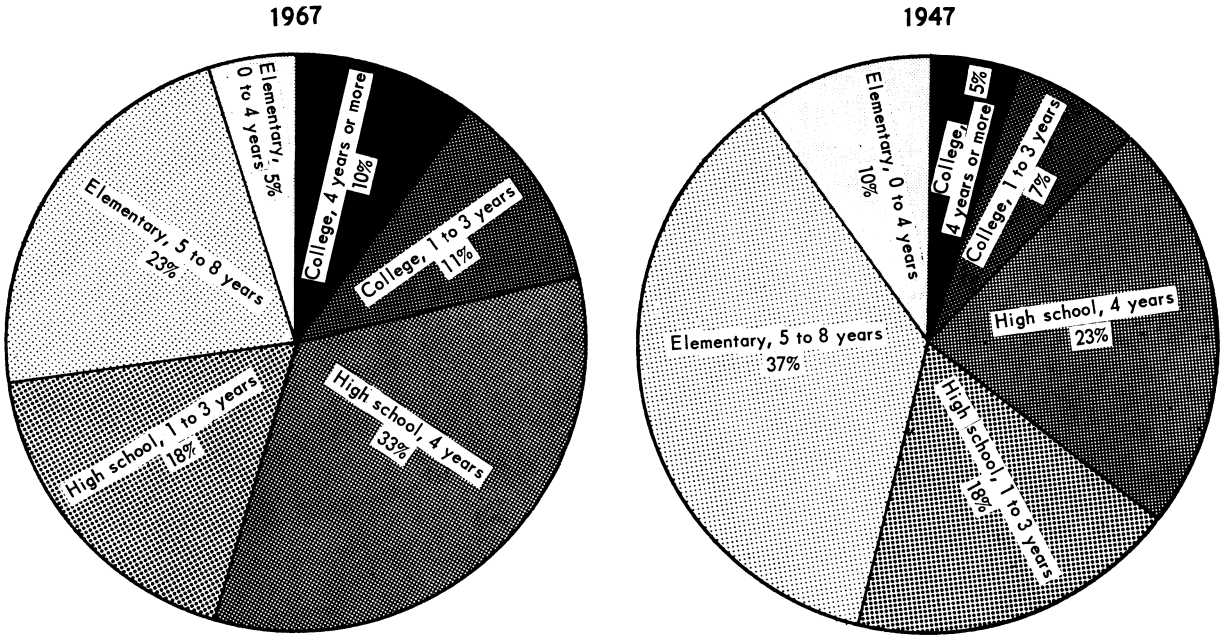


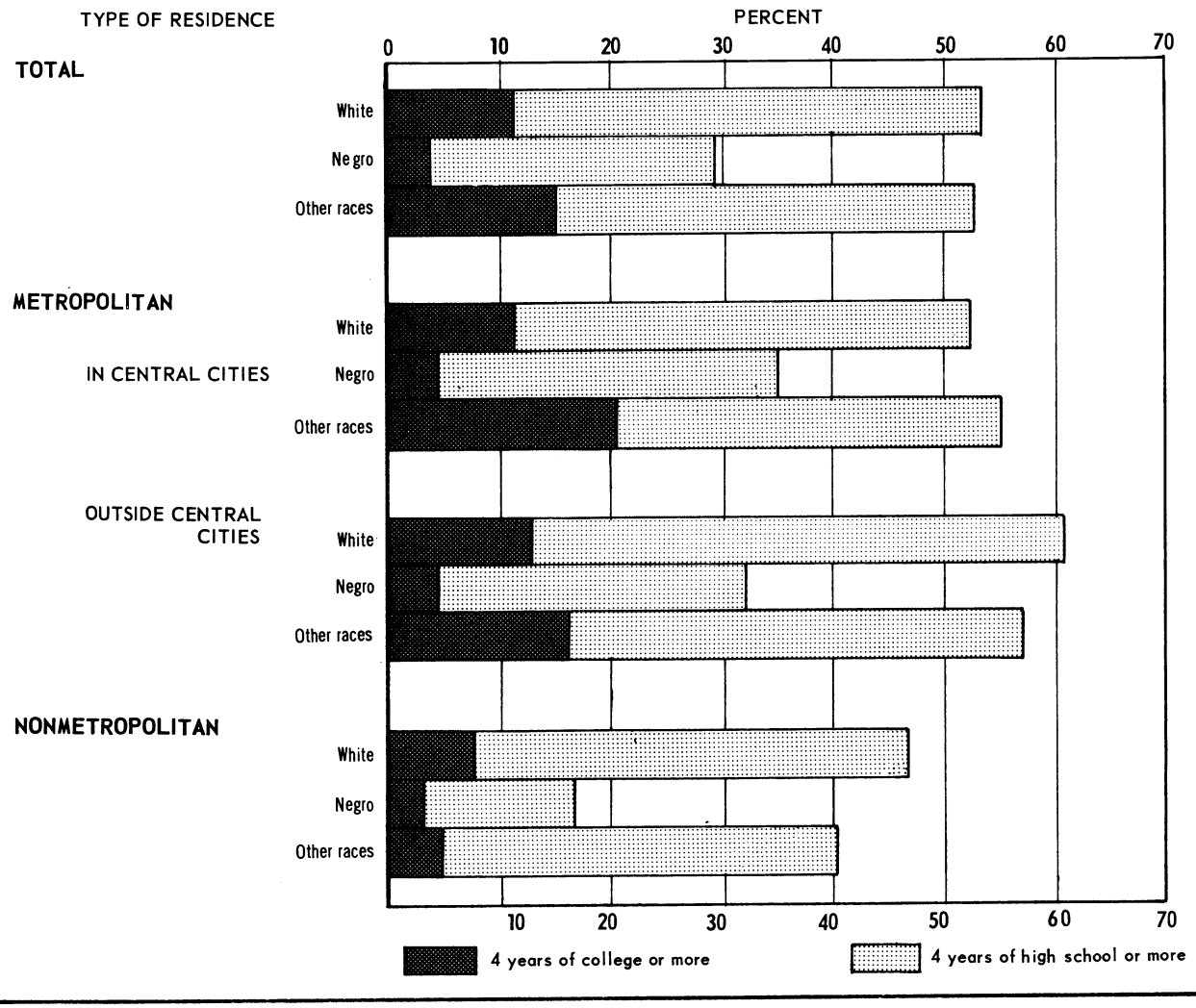
Table B. -LEVEL OF SCHOOL COMPLETED BY PERSONS 25 YEARS OLD AND OVER, BY METROPOLITAN-NONMETROPOLITAN RESIDENCE AND RACE, FOR THE UNITED STATES: MARCH 1967

Residence and race	Total population (thousands)	Percent by level of school completed			Median school years completed
		Less than 5 years of elementary school	4 years of high school or more	4 years of college or more	
TOTAL					
All races	104,864	6.1	51.1	10.1	12.0
White	94,257	4.8	53.4	10.6	12.1
Negro	9,660	17.4	29.5	4.0	9.1
Other races	947	17.0	52.3	15.2	12.1
METROPOLITAN--IN CENTRAL CITIES					
All races	32,822	6.4	49.4	9.8	11.9
White	26,978	5.3	52.2	10.7	12.1
Negro	5,420	10.8	35.1	4.2	10.2
Other races	424	19.3	55.4	20.3	12.2
METROPOLITAN--OUTSIDE CENTRAL CITIES					
All races	35,466	3.5	59.8	12.9	12.3
White	33,865	3.0	60.9	13.2	12.3
Negro	1,318	15.3	32.8	4.2	9.7
Other races	283	8.1	57.6	16.3	12.2
NONMETROPOLITAN					
All races	36,576	8.4	44.3	7.6	11.0
White	33,414	6.3	46.6	8.0	11.4
Negro	2,922	30.6	17.7	3.4	7.3
Other races	240	23.3	40.4	5.0	10.5

metropolitan areas, compared to 18 percent in the nonmetropolitan areas. Negroes living in metropolitan areas had a median of 10.1 years of school completed compared to 7.3 years in nonmetropolitan areas.

While Negroes had low educational attainment relative to the white population, persons of other nonwhite races (nonwhites who are not Negro) had an average attainment level similar to that of white persons. The median school years completed for persons of other nonwhite races 25 years old and over was 12.1, the same as for whites of the same age. However, among persons of other nonwhite races, a higher percentage had completed at least 4 years of college--15.2 percent, compared to 10.6 percent for whites. At the lower level of educational attainment, the positions of the white and other nonwhite population were reversed; 4.8 percent of whites had completed less than 5 years of elementary school compared to 17.0 percent for those of other nonwhite races. In 1960, according to the decennial census, the Japanese and Chinese account for the high level of college completion among those of other nonwhite races; and, American Indians represent a large proportion of the persons of other nonwhite races with very little schooling.

Figure 3.--Level of School Completed by Persons 25 Years Old and Over, by Residence and Race, for the United States: March 1967



RELATED REPORTS

Data on educational attainment for persons 14 years old and over in April 1947, March 1959, March 1962, March 1964, and March 1965 and 1966 were published in Current Population Reports, Series P-20, Nos. 15, 99, 121, 138, and 158, respectively. Statistics on educational attainment of the Negro population in 1966 are presented in Current Population Reports, Series P-20, No. 168. Further information on educational attainment is presented in "Educational Change in a Generation: March 1962," Series P-20, No. 132. In addition, educational attainment as determined in the Current Population Survey is related to labor force characteristics in publications of the Bureau of Labor Statistics, as in "Educational Attainment of Workers, March 1966," published in the June 1967 issue of Monthly Labor Review. Statistics on educational attainment are also available in several reports of the 1960 Census of Population, the most relevant of which is PC(2)-5B, Educational Attainment. Volume I, Characteristics of the Population, chapter C, "General Social and Economic Characteristics," and chapter D, "Detailed Characteristics," also include statistics on educational attainment. Report PC(2)-1C, Nonwhite Population by Race, includes educational data for selected races. Unpublished data on educational attainment for central cities by age, sex, and color for March 1965 and 1966 are available on request for the cost of reproducing the worksheets.

Comparability with earlier survey and census data.--The education data presented in this report for March 1967 are comparable with data collected in 1962 and subsequently, but not strictly comparable with those for earlier survey dates, for these reasons: (1) Persons not reporting on years of school completed in 1962 and subsequent dates were assigned a value for years of school completed according to procedures described in the section on "Definitions and explanations," whereas in earlier years no assignment was made and these persons were shown separately in the published tables. (2) Data on years of school completed for 1947 were based on responses to a single question, rather than the two questions used in subsequent years. There may have been a greater tendency toward overstatement of years of school completed in 1947 when only the single question was asked.

Apart from the different dates at which the statistics were collected, the education data from the March 1967 Current Population Survey may differ from those from the 1960 Census and from projections based on the census for the following reasons: (1) Members of the Armed Forces in the United States living off post or with their families on post are included in the survey, but all other members of the Armed Forces are excluded from it. All members of the Armed Forces in the United States are included in the census data. (2) Statistics from both the census and the CPS are subject to sampling and response errors. There are differences in coverage, enumeration techniques (self-enumeration versus direct enumeration), and the methods of allocating nonresponses.

The Content Evaluation Study of the 1960 Census is a major source of information about the accuracy of census data on educational attainment. A comparison by detailed categories of years of school reported for each level suggests a net overreporting on years of school completed for about 6 percent of the population 25 years old and over.[1] A comparison of CPS with 1960 Census figures shows that the CPS figures include more persons with 12 years or more of school completed and fewer with less than 12 years. If the Content Evaluation Study is taken as a standard, the 1960 Census figures on educational attainment show a slight upward bias. The CPS figures are still higher than the census figures and may, therefore, be more biased in the direction of high educational attainment.

Because of the differences mentioned above, particular care should be exercised in comparing the data for March 1967 with those from the 1960 Census, and with those for CPS dates of 1959 and earlier.

DEFINITIONS AND EXPLANATIONS

Population coverage.--The figures in this report for March 1967 are sample survey data and relate to the population of the 50 States and the District of Columbia. Inmates of institutions are included in the sample. Members of the Armed Forces living off post or with their families on post are included, but all other members of the Armed Forces are excluded.

Age.--The age classification is based on the age of the person at his last birthday.

Race and color.--The term "race" in this report refers to the division of population into three groups, white, Negro, and other races. The group designated as "other races" consists of Indians, Japanese, Chinese, and other nonwhite races. The term "color" refers to the twofold classification white and nonwhite.

---

[1] Evaluation and Research Program of the U.S. Censuses of Population and Housing, 1960: Accuracy of Data on Population Characteristics as Measured by Reinterviews, Series ER 60, No. 4, table 12.

Years of school completed.--Data on years of school completed in this report were derived from the combination of answers to two questions: (a) "What is the highest grade of school he has ever attended?" and (b) "Did he finish this grade?"

The questions on educational attainment apply only to progress in "regular" schools. Such schools include graded public, private, and parochial elementary and high schools (both junior and senior high), colleges, universities, and professional schools, whether day schools or night schools. Thus, regular schooling is that which may advance a person toward an elementary school certificate or high school diploma, or a college, university, or professional school degree. Schooling in other than regular schools was counted only if the credits obtained were regarded as transferable to a school in the regular school system.

The median years of school completed is defined as the value which divides the population into two equal parts--one-half having completed more schooling and one-half having completed less schooling than the median. This median was computed after the statistics on years of school completed had been converted to a continuous series of numbers (e.g., completion of the first year of high school was treated as completion of the 9th year and the completion of the first year of college as completion of the 13th year). The persons completing a given school year were assumed to be distributed evenly within the interval from .0 to .9 of the year (for example, persons completing the 12th year were assumed to be distributed evenly between 12.0 and 12.9). In fact, at the time of the March survey, most of the enrolled persons had completed about three-fourths of a school year beyond the highest grade completed, whereas a large majority of persons who were not enrolled had not attended any part of a grade beyond the highest one completed. The effect of the assumption is to place the median for younger persons slightly below, and for older persons slightly above, the true median. Because of the inexact assumption as to the distribution within an interval, this median is more appropriately used for comparing groups and the same group at different dates than as an absolute measure of educational attainment.

Assignment of educational attainment for those not reporting.--When information on either the highest grade attended or completion of the grade was not reported in the 1967 survey, entries for the items were assigned using an edit in the computer. The general procedure was to assign an entry for a person that was consistent with entries for other persons with similar characteristics. The specific technique used in the March 1967 survey was as follows:

1. The computer stored reported data on highest grade attended by color and age, and on completion of the grade by age and highest grade attended, for person 14 years old and over in the population.

2. Each stored value was retained in the computer only until a succeeding person having the same characteristics (e.g., same color and age, in the case of assignments for highest grade attended) and having the item reported, was processed through the computer. Then the reported data for the succeeding person were stored in place of the one previously stored.

3. When one or both of the education items for a person 14 years old and over was not reported, the entry assigned to this person was that stored for the last person who had the same characteristics.

Metropolitan-nonmetropolitan residence.--The population residing in standard metropolitan statistical areas (SMSA's) constitutes the metropolitan population. Except in New England, an SMSA is a county or group of contiguous counties which contains at least one city of 50,000 inhabitants or more, or "twin cities" with a combined population of at least 50,000. In addition to the county, or counties, containing such a city or cities, contiguous counties are included in an SMSA if, according to certain criteria, they are essentially metropolitan in character and are socially and economically integrated with the central city. In New England, SMSA's consist of towns and cities, rather than counties. The metropolitan population in this report is based on SMSA's as defined in the 1960 Census and does not include any subsequent additions or changes.

The population inside SMSA's is further classified as "in central cities" and "outside central cities." With a few exceptions, central cities are determined according to the following criteria:

1. The largest city in an SMSA is always a central city.

2. One or two additional cities may be secondary central cities on the basis and in the order of the following criteria:

   a. The additional city or cities have at least 250,000 inhabitants.

   b. The additional city or cities have a population of one-third or more of that of the largest city and a minimum population of 25,000.

Rounding of estimates.--Individual figures are rounded to the nearest thousand without being adjusted to group totals, which are independently rounded. Percentages are based on the rounded absolute numbers.

SOURCE AND RELIABILITY OF THE ESTIMATES

Source of data.--The estimates are based on data obtained monthly in the Current Population Survey of the Bureau of the Census. The sample is spread over 449 areas comprising 863 counties and independent cities, with coverage in each of the 50 States and the District of Columbia. Approximately 52,500 occupied households are designated for interview each month. Of this number, 2,500 occupied units, on the average, are visited but interviews are not obtained because the occupants are not found at home after repeated calls or are unavailable for some other reason. In addition to the 52,500, there are also about 7,500 sample units in an average month that are visited but are found to be vacant or otherwise not to be enumerated.

The estimating procedure used in this survey involved the inflation of the weighted sample results to independent estimates of the civilian noninstitutional population of the United States by age, color, and sex. These independent estimates were based on statistics from the 1960 Census of Population; statistics of births, deaths, immigration, and emigration; and statistics on the strength of the Armed Forces. To these figures were added estimates of the institutional population based on the assumption that the percent of the population who were inmates in each age and sex group in 1967 was the same as in the 1960 Census. Members of the Armed Forces living off post or with their families on post found in the survey were also included.

Reliability of the estimates.--Since the estimates are based on a sample, they may differ somewhat from the figure that would have been obtained if a complete census had been taken using the same schedules, instructions, and enumerators. As in any survey work, the results are subject to errors of response and of reporting as well as being subject to sampling variability.

The standard error is primarily a measure of sampling variability, that is, of the variations that occur by chance because a sample rather than the whole of the population is surveyed. As calculated for this report, the standard error also partially measures the effect of response and enumeration errors but does not measure any systematic biases in the data. The chances are about 68 out of 100 that an estimate from the sample would differ from a complete census figure by less than the standard error. The chances are about 95 out of 100 that the difference would be less than twice the standard error.

The figures presented in tables C and D are approximations to the standard errors of various estimates shown in this report. In order to derive standard errors that would be applicable to a wide variety of items and could be prepared at a moderate cost, a number of approximations were required. As a result, the tables of standard errors provide an indication of the order of magnitude of the standard errors rather than the precise standard error for any specific item.

Table C.--STANDARD ERROR OF ESTIMATED NUMBER

(68 chances out of 100)

Size of estimate	Standard error	Size of estimate	Standard error
25,000.....	7,000	2,500,000...	74,000
50,000.....	11,000	5,000,000...	98,000
100,000.....	15,000	10,000,000..	139,000
250,000.....	23,000	25,000,000..	213,000
500,000.....	33,000	50,000,000..	262,000
1,000,000....	49,000		

Table D.--STANDARD ERROR OF ESTIMATED PERCENTAGE

(68 chances out of 100)

Estimated percentage	Base of percentage (thousands)						
	250	500	1,000	5,000	10,000	25,000	50,000
2 or 98.....	1.3	0.9	0.6	0.3	0.2	0.1	0.1
5 or 95.....	2.0	1.4	1.0	0.4	0.3	0.2	0.2
10 or 90.....	2.8	2.0	1.4	0.6	0.4	0.2	0.2
25 or 75.....	4.0	2.8	2.0	0.9	0.6	0.4	0.3
50.....	4.6	3.3	2.3	1.0	0.7	0.4	0.3

The reliability of an estimated percentage, computed by using sample data for both numerator and denominator, depends upon both the size of the percentage and the size of the total upon which the percentage is based. Estimated percentages are relatively more reliable than the corresponding estimates of the numerators of the percentages, particularly if the percentages are large (50 percent or more).

Illustration: Table 1 of this report shows that 14,015,000 males age 25 and over had completed 4 years of high school but had not finished a year of college. Interpolation in table C shows the standard error on 14,015,000 to be approximately 159,000. The chances are about 68 out of 100 that a complete census would have differed from the sample estimate by less than 159,000. The chances are 95 out of 100 that the difference would have been less than 318,000.

These 14,015,000 males represented 28.2 percent of the 49,756,000 males age 25 and over. Table D shows the standard error of 28.2 percent with a base of 49,000,000 to be about 0.3 percent. Consequently, the chances are 68 out of 100 that a complete census would have disclosed the figure to be between 27.9 and 28.5 percent, and 95 chances out of 100 that the figure would have been between 27.6 and 28.8 percent.